

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: **Ahrens, Jr. et al.**

Serial No. **09/978,352**

Filed: **October 16, 2001**

For: **Data Processing System, Method
and Product for Reporting Loss of
Service Application**

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Group Art Unit: **2151**

Examiner: **Karen C. Tang**

**Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450**

35525
PATENT TRADEMARK OFFICE
CUSTOMER NUMBER

APPEAL BRIEF (37 C.F.R. 41.37)

This brief is in furtherance of the Notice of Appeal, filed in this case on January 29, 2007.

A fee of \$500.00 is required for filing an Appeal Brief. Please charge this fee to IBM Corporation Deposit Account No. 09-0447. No additional fees are believed to be necessary. If, however, any additional fees are required, I authorize the Commissioner to charge these fees which may be required to IBM Corporation Deposit Account No. 09-0447. No extension of time is believed to be necessary. If, however, an extension of time is required, the extension is requested, and I authorize the Commissioner to charge any fees for this extension to IBM Corporation Deposit Account No. 09-0447.

REAL PARTY IN INTEREST

The real party in interest in this appeal is the following party: International Business Machines Corporation of Armonk, New York.

RELATED APPEALS AND INTERFERENCES

With respect to other appeals or interferences that will directly affect, or be directly affected by, or have a bearing on the Board's decision in the pending appeal, there are no such appeals or interferences.

STATUS OF CLAIMS

A. TOTAL NUMBER OF CLAIMS IN APPLICATION

Claims in the application are: 1-4, 6-13, 15-22, and 24-27

B. STATUS OF ALL THE CLAIMS IN APPLICATION

1. Claims canceled: 5, 14, and 23
2. Claims withdrawn from consideration but not canceled: None
3. Claims pending: 1-4, 6-13, 15-22, and 24-27
4. Claims allowed: None
5. Claims rejected: 1-27
6. Claims objected to: None

C. CLAIMS ON APPEAL

The claims on appeal are: 1-4, 6-13, 15-22, and 24-27

STATUS OF AMENDMENTS

A Final Office Action was mailed November 20, 2006. There are no amendments after the Final Office Action. A Notice of Appeal was filed January 29, 2007.

SUMMARY OF CLAIMED SUBJECT MATTER

A. CLAIM 1 - INDEPENDENT

The subject matter of claim 1 is directed to a method in a data processing system including a logically partitioned computer system and a hardware management console. (Specification page 14, line 8 to page 16, line 10; Figure 3 # 200 and #280.) The hardware management console is a stand-alone system separate from the logically partitioned computer system. A service application (Specification page 14, line 8 to page 16, line 10; Figure 3, #284) is executable by the hardware management console for managing service of and placing service calls for the logically partitioned computer system. A service partition (Specification page 14, line 8 to page 16, line 10; Figure 3, #204) and a service processor (Specification page 14, line 8 to page 16, line 10; Figure 3, #290) are included within the logically partitioned computer system (Specification page 14, line 8, to page 16, line 10; Figure 3, #200). The service processor monitors a presence of the service application executing on the hardware management console. (Specification page 16, lines 11-24; Figure 4, block 404.) In response to an absence of the service application, the service partition reports the absence of the service application to a system administrator of the service partition. (Specification page 17, lines 24-32; Figure 4, block 422.)

B. CLAIM 3 - DEPENDENT

The subject matter of claim 3 depends from claim 1 and further comprises outputting a signal from the service application, utilizing the hardware management console, to the service processor. The service processor utilizes the signal to monitor a presence of the service application. (Specification page 16, lines 11-24; Figure 4, block 404.)

C. CLAIM 4 - DEPENDENT

The subject matter of claim 4 depends from claim 3 and further comprises the step of determining that the service application is absent in response to an absence of the signal. (Specification page 17, lines 1-9; Figure 4, block 412.)

D. CLAIM 6 - DEPENDENT

The subject matter of claim 6 depends from claim 4 and further comprises displaying a message, utilizing the service partition, that prompts the system administrator of the service partition to check whether the hardware management console is connected to the logically partitioned computer system. (Specification page 17, lines 24-32; Figure 4, block 422.) An entry is received in response to the message. In response to an entry that the hardware management console is disconnected from the logically partitioned computer system, a message is displayed to the system administrator to reconnect the hardware management console to the logically partitioned computer system. (Specification page 18, lines 3-9; and Figure 4, block 426.)

E. CLAIM 7 - DEPENDENT

The subject matter of claim 7 depends from claim 6 and further comprises in response to an entry of a message that the hardware management console is connected to the logically partitioned computer system, displaying a message, utilizing the service partition, prompting the system administrator to check physical links between the hardware management console and the logically partitioned computer system. (Specification page 18, lines 11-18; Figure 4, block 428.) An entry is received in response to the message. A message is displayed, in response to an entry that the physical links are not intact, utilizing the service partition prompting the system administrator to reestablish the physical links between the hardware management console and the logically partitioned computer system. (Specification page 18, line 28, through page 19, line 2; Figure 4, block 434.)

F. CLAIM 9 - DEPENDENT

The subject matter of claim 9 depends from claim 4 and further comprises displaying a message, utilizing the service partition, prompting the system administrator to check physical links between the hardware management console and the logically partitioned computer system. (Specification page 18, lines 11-18; Figure 4, block 428.) An entry is received in response to the message. In response to an entry that the physical links are not intact, a message is displayed

utilizing the service partition prompting the system administrator to reestablish the physical links between the hardware management console and the logically partitioned computer system. (Specification page 18, line 28, through page 19, line 2; Figure 4, block 434.)

G. CLAIM 10 - INDEPENDENT

The subject matter of claim 10 is directed to a logically partitioned computer system and a hardware management console. (Specification page 14, line 8, through page 16, line 10; Figure 3, #200 and #280.) The hardware management console is a stand-alone system separate from the logically partitioned computer system. A service application (Specification page 14, line 8, through page 16, line 10; Figure 3, #284.) is executable by the hardware management console for managing service of and placing service calls for the logically partitioned computer system. A service partition (Specification page 14, line 8, through page 16, line 10; Figure 3, #204.) and a service processor (Specification page 14, line 8, through page 16, line 10; Figure 3, #290.) included within the logically partitioned computer system. The service processor monitors a presence of the service application executing on the hardware management console. (Specification page 16, lines 11-24; Figure 4, block 404.) In response to an absence of the service application, the service partition reports the absence of the service application to a system administrator of the service partition. (Specification page 17, lines 24-32; Figure 4, block 422.)

H. CLAIM 12 - DEPENDENT

The subject matter of claim 12 depends from claim 10 and further comprises the service application outputting a signal utilizing the hardware management console to the service processor. The service processor utilizes the signal to monitor a presence of the service application. (Specification page 16, lines 11-24; Figure 4 block 404.)

I. CLAIM 13 - DEPENDENT

The subject matter of claim 13 depends from claim 12 and further comprises the service processor for determining that the service application is absent in response to an absence of the signal. (Specification page 17, lines 1-9; Figure 4 block 412.)

J. CLAIM 15 - DEPENDENT

The subject matter of claim 15 depends from claim 13 and further comprises the service partition for displaying a message prompting the system administrator of the service partition to check whether the hardware management console is connected to the logically partitioned computer system. (Specification page 17, lines 24-32; Figure 4 block 422.) An entry is received in response to the message. In response to an entry that the hardware management console is disconnected from the logically partitioned computer system, the logically partitioned computer system for displaying a message to the system administrator to reconnect the hardware management console to the logically partitioned computer system. (Specification page 18, lines 3-9; Figure 4 block 426.)

K. CLAIM 16 - DEPENDENT

The subject matter of claim 16 depends from claim 15 and further comprises in response to an entry of a message that the hardware management console is connected to the logically partitioned computer system, the service partition for displaying a message prompting the system administrator to check physical links between the hardware management console and the logically partitioned computer system. (Specification page 18, lines 11-18; Figure 4 block 428.) An entry is received in response to the message. In response to an entry that the physical links are not intact, the service processor for displaying a message prompting the system administrator to reestablish the physical links between the hardware management console and the logically partitioned computer system. (Specification page 18, line 18, through page 19, line 2; Figure 4 block 434.)

L. CLAIM 18 - DEPENDENT

The subject matter of claim 18 depends from claim 13 and further comprises the service partition for displaying a message prompting the system administrator to check physical links between the hardware management console and the logically partitioned computer system. (Specification page 18, lines 11-18; Figure 4 block 428.) An entry is received in response to the message. In response to an entry that the physical links is not intact, the service partition for

displaying a message prompting the system administrator to reestablish the physical links between the hardware management console and the logically partitioned computer system. (Specification page 18, line 28, through page 19, line 2; Figure 4 block 434.)

M. CLAIM 19 - INDEPENDENT

The subject matter of claim 19 is directed to a computer program product (Specification page 19, lines 3-21.) in a data processing system including a logically partitioned computer system (Specification page 14, line 8, through page 16, line 10; Figure 3, #200.) and a hardware management console (Specification page 14, line 8, through page 16, line 10; Figure 3, #280.). The hardware management console is a stand-alone system separate from the logically partitioned computer system. A service application (Specification page 14, line 8, through page 16, line 10; Figure 3, #284.) is executable by the hardware management console for managing service of and placing service calls for the logically partitioned computer system. The computer program product includes instruction means for including a service partition (Specification page 14, line 8, through page 16, line 10; Figure 3, #204.) and a service processor (Specification page 14, line 8, through page 16, line 10; Figure 3, #290.) within the logically partitioned computer system. Instruction means are included for monitoring, by the service processor, a presence of the service application executing on the hardware management console. (Specification page 16, lines 11-24; Figure 4, block 404.) In response to an absence of the service application, instruction means are included for reporting, utilizing the service partition, the absence of the service application to a system administrator of the service partition. (Specification page 17, lines 24-32; Figure 4, block 422.)

N. CLAIM 21 - DEPENDENT

The subject matter of claim 21 depends from claim 19 and further comprises instruction means for outputting a signal from the service application utilizing the hardware management console to the service processor. Instruction means are included for utilizing the signal, by the service processor, to monitor a presence of the service application. (Specification page 16, lines 11-24; Figure 4, block 404.)

O. CLAIM 22 - DEPENDENT

The subject matter of claim 22 depends from claim 21 and further comprises instruction means for determining that the service application is absent in response to an absence of the signal. (Specification page 17, lines 1-9; Figure 4, block 412.)

P. CLAIM 24 - DEPENDENT

The subject matter of claim 24 depends from claim 22 and further comprises instruction means for displaying a message, utilizing the service partition, prompting the system administrator of the service partition to check whether the hardware management console is connected to the logically partitioned computer system. (Specification page 17, lines 24-32; Figure 4, block 422.) Instruction means are included for receiving an entry in response to the message. Instruction means are included for receiving an entry in response to the message. Instruction means are included for displaying a message to the system administrator to reconnect the hardware management console to the logically partitioned computer system. (Specification page 18, lines 3-9; Figure 4, block 426.)

Q. CLAIM 25 - DEPENDENT

The subject matter of claim 25 depends from claim 24 and further comprises in response to an entry of a message that the hardware management console is connected to the logically partitioned computer system, instruction means for displaying a message utilizing the service partition prompting the system administrator to check physical links between the hardware management console and the logically partitioned computer system. (Specification page 18, lines 11-18; Figure 4, block 428.) Instruction means are included for receiving an entry in response to the message. In response to an entry that the physical links are not intact, instruction means are included for displaying a message utilizing the service partition prompting the system administrator to reestablish the physical links between the hardware management console and the logically partitioned computer system. (Specification page 18, line 28, through page 19, line 2; Figure 4, block 434.)

R. CLAIM 27 - DEPENDENT

The subject matter of claim 27 depends from claim 22 and further comprises instruction means for displaying a message, utilizing the service partition, prompting the system administrator to check physical links between the hardware management console and the logically partitioned computer system. (Specification page 18, lines 11-18; Figure 4, block 428.) Instruction means are included for receiving an entry in response to the message. In response to an entry that the physical links are not intact, instruction means are included for displaying a message, utilizing the service partition, prompting the system administrator to reestablish the physical links between the hardware management console and the logically partitioned computer system. (Specification page 18, line 28, through page 19, line 2; Figure 4, block 434.)

GROUND OF REJECTION TO BE REVIEWED ON APPEAL

The grounds of rejection to review on appeal are as follows:

1. Whether claims 1-6, 10-13, 15, and 19-24 are obvious over AAPA (Applicant Admitted Prior Art) in view of *Moiin*, et al., System and Method of Monitoring a Distributed Fault Tolerant Computer System, Patent No. 6,550,017, dated April 15, 2003 (hereinafter "*Moiin*") under 35 U.S.C. § 103(a).
2. Whether claims 7-9, 16-18, and 25-27 are obvious over AAPA (Applicant Admitted Prior Art) in view of *Moiin*, et al., System and Method of Monitoring a Distributed Fault Tolerant Computer System, Patent No. 6,550,017, dated April 15, 2003 (hereinafter "*Moiin*"), and further in view of *Quinlan*, Diagnosis of Link Failures in a Network, Patent Application Publication No. US 2002/0021671, published February 21, 2002 (hereinafter "*Quinlan*") under 35 U.S.C. § 103(a).

ARGUMENT

A. GROUND OF REJECTION 1 (Claims 1-6, 10-13, 15, and 19-24)

The Examiner has rejected claims 1-6, 10-13, 15, and 19-24 under 35 U.S.C. § 103(a) as being unpatentable over AAPA (Applicant Admitted Prior Art) in view of *Moiin*, et al., System and Method of Monitoring a Distributed Fault Tolerant Computer System, Patent No. 6,550,017, dated April 15, 2003 (hereinafter "*Moiin*"). This position is not well-founded.

Applicants' independent claims, claims 1, 10, and 19, recite similar features. The following discussion refers to the features recited in claim 1. Since claim 1 is representative of claims 10 and 19, the following discussion is also applicable to claims 10 and 19.

The combination of AAPA and *Moiin* does not render Applicants' claims obvious because *Moiin* does not teach monitoring, by said service processor, a presence of said service application executing on said hardware management console, or in response to an absence of said service application, reporting, utilizing said service partition, said absence of said service application to a system administrator of said service partition.

Moiin teaches a system and method for monitoring a fault tolerant computer system. Figure 1 depicts such a computer system. The computer system of Figure 1 includes four nodes, nodes 30.0-30.3. Each node includes a processor as well as other components. Each node is connected to a public network 10 and a private network 24. The system includes both dedicated and shared storage. Some nodes share the same storage.

Each node also includes two power supplies. For example, node 30.0 includes power supplies 36A.0 and 36B.0. The power supplies in each node are connected to a maintenance bus 60. A node is removed from the computer system, utilizing maintenance bus 60, by turning off its power supplies.

Each node includes a connectivity monitor that determines whether the physical links are operational by exchanging heartbeats, and then uses the results to identify functioning nodes. Each connectivity monitor then sends its results of the determination to a partition monitor (PM) 22.

There is only one partition monitor in the computer system. The partition monitor is connected to the public network 10 and the maintenance bus 60. The partition monitor uses the results it receives from the connectivity monitors to ensure that there is only one fully connected

network operating as the distributed fault system at any given time. For example, the partition monitor controls the partitioning of the shared storage between nodes. The partition monitor ensures that only one of the nodes can access a storage unit at any one time. The partition monitor accomplishes this by turning the nodes on and off by turning the nodes' power supplies on and off through the maintenance bus 60.

The partition monitor then collects the connectivity information from each connectivity monitor. The partition monitor detects new partitions and selects an optimal system. The partition monitor then turns power off to those nodes that are not to be included in the optimal system. The partition monitor then issues the appropriate message to the system administrator about the optimal system.

Applicants' independent claims describe a service partition, a service application, and a service processor. The service processor monitors a presence of the service application. The service application is executing on a hardware management console. In response to an absence of the service application, the absence of the service application is reported, using the service partition, to a system administrator of the service partition.

Motin does not teach monitoring, by said service processor, a presence of said service application executing on said hardware management console. Neither the connectivity monitor nor the partition monitor taught by *Motin* is a service processor that monitors the presence of a service application.

The combination of the connectivity monitor of AAPA and *Motin* does not teach a service processor or a service application that is executing in a hardware management console.

Each node includes a connectivity monitor. The connectivity monitor determines whether the physical links are operational. The connectivity monitor is not a service processor because it does not monitor anything that is analogous to a service application.

The physical links is not analogous to a service application that is executing within a hardware management console. Physical links are not an application of any sort. Further, physical links cannot be executed.

The connectivity monitor in each node uses the results of its determination of the operational status of the physical links to identify other nodes that are functional. A node is not functional if the physical link to that node is not functioning. A node is a physical device that

includes other physical devices such as power supplies. Therefore, a node is also not analogous to a service application.

Furthermore, the connectivity monitor does not monitor any software that executing in the other nodes. The connectivity monitor determines whether physical links are operational, and uses this determination to identify functioning nodes. Therefore, since the connectivity monitor does not monitor any software in other nodes, the software in the other nodes are not analogous to a service application.

The connectivity monitors themselves in each node are not analogous to a service application. *Moiin* does not teach the possibility that the connectivity monitor (CM) could ever be absent. Since a connectivity monitor cannot be absent, the connectivity monitors are not analogous to a service application.

The partition monitor is also not analogous to either a service processor or a service application. The partition monitor does not monitor the presence of anything. Further, the partition monitor is a physical device, and, therefore, is not an application.

On pages 2-3 of the Final Office Action that was mailed November 20, 2006, the Examiner asserts that the partition monitor is a service processor and the "software" running on a node is a service application. Applicants disagree.

The partition monitor does not monitor any software that is running on a node and, therefore, is not analogous to a service processor. The partition monitor uses the information that it receives from the connectivity monitors to make sure that there is only one connected network. The information it receives does not include any information about software running on a node.

The information identifies nodes that the connectivity monitor has determined are functioning. The connectivity monitor makes this determination based on whether the physical links are operational, and not based on whether software is running on a node. For example, a connectivity monitor will identify a node as not functioning if the physical link to the node is not functioning even though software is running on that node. Thus, the report a connectivity monitor sends to the partition monitor does not necessarily indicate anything about the software that is running on a node. Therefore, the partition monitor does not monitor software that is running on a node.

The Examiner also asserts, on pages 2-3 of the Final Office Action, that *Moiin*'s invention also comprises a function that detects the change of signals coming from a node such

that if there is no "ON" signal, it is assumed that the node is either absent or inoperative. Applicants disagree that this teaches monitoring a service application.

Assuming that a node is either absent or inoperative does not teach monitoring a service application. "Assuming" is not the same as "monitoring".

Furthermore, detecting a change of a signal that indicates whether a node is "ON" or "OFF" does not teach monitoring a service application. The signal is not a service application because the signal cannot be executed on a hardware management console.

The Examiner states that *AAPA* teaches the features of Applicants' claims but does not teach either "monitoring, by said service processor, a presence of said service application executing on said hardware management console" or "in response to an absence of said service application, reporting, utilizing said service partition, said absence of said service application to a system administrator of said service partition". The Examiner relies on *Moiin* to teach these features. Specifically, in the Final Office Action on pages 3-4, the Examiner refers to *Moiin*, column 8, lines 40-50, and asserts that *Moiin* teaches a service application by teaching the connectivity monitor.

According to Applicants' claims, a presence of the service application is monitored. If, as the Examiner asserts, the connectivity monitor is indeed analogous to the service application claimed by Applicants, the presence/absence of the connectivity monitor must be monitored. The Examiner refers to column 8, lines 40-50. *Moiin*, column 8, lines 37-51, states:

If, however, there is no ON signal associated with any power supply unit for a node (or potential node position in the network), then it is assumed that a node is either absent, or inoperative. As a result, it is not configured as part of the distributed fault tolerant system 20 by the management subsystem 126.

Also shown in FIG. 3 is the connectivity monitor (CM) 128. This is another real-time daemon that is responsible for monitoring the health of the private communication medium and providing a logical connection between any pair of nodes in the system.

A global database manager (GDM) 130 forms a small and restricted database subsystem that maintains the list of resources and their current owners and their backups.

Moiin, column 8, lines 37-51.

Thus, *Moiin* teaches a connectivity monitor (CM) that monitors the health of the medium.

The connectivity monitor also provides a logical connection. *Moiin* does not, however, teach the possibility that the connectivity monitor (CM) could ever be absent, and does not teach monitoring a presence of the connectivity monitor. Therefore, the connectivity monitor of *Moiin* is not analogous to Applicants' service application. *Moiin* does not teach or suggest a service application where the presence of that service application is monitored.

Also according to Applicants' claims, it is a service processor that monitors a presence of the service application. The Examiner refers to *Moiin*, column 11, lines 40-67, and asserts that *Moiin* teaches a service processor by teaching a partition monitor. *Moiin*, column 11, line 40, through column 12, line 2, states:

When a node is the only member of the system, and therefore, the default master of the global database manager, special administrative commands are required.

The connectivity monitor 128 cooperates with the partition monitor 22 to discover failures of the private communication medium 24 and to mask them from the application programs if it is able to do so. The connectivity monitor 128 on each node 30 of the distributed system sends its connectivity graph to the partition monitor and it enables a logical connection between the nodes 30 of the system that is built on top of redundant physical links. This allows the other modules of the system and the application processes (where distributed applications are supported) to communicate via a fault tolerant link and be immune from the failures of the private communication medium 24. The connectivity monitor needs to ensure that the links are operational and this can be done via exchange of heartbeats. The connectivity monitor 128 is either a real-time user-land process using TCP (Transmission Control Protocol), which ensures that all failures up to the TCP layer are covered, or it will be based on an interrupt handling mechanism, it being noted that the latter will provide less coverage for software faults. The connectivity monitor 128 maintains the list of nodes and networks that it identifies as functioning and sends that information to the partition monitor through a mechanism other than the private network (possibly RS232). The partition monitor 22 ensures that there are no partitions in the system by collecting all the connectivity information and using its ability to turn off the PSUs of a node.

Moiin, column 11, line 40, through column 12, line 2.

If, as the Examiner asserts, the partition monitor is analogous to Applicants' service processor and the connectivity monitor is analogous to Applicants' service application, then the partition monitor must monitor the presence of the connectivity monitor. This is not what is taught by *Moiin*, however. As is made clear from the passage of *Moiin* that is reproduced above, the partition monitor of *Moiin* uses the information provided to it by the connectivity monitor in

order to select nodes to include in an optimal system. Nowhere in *Moiin* is the partition monitor described as monitoring the presence of the connectivity monitor.

Therefore, the partition monitor is not analogous to Applicants' service processor and the connectivity monitor is not analogous to Applicants' service application. *Moiin* does not teach or suggest monitoring, by a service processor, a presence of a service application.

According to another feature of Applicants' claims, in response to an absence of the service application, the service partition reports the absence of the service application to a system administrator of the service partition. In the Final Office Action on page 4, the Examiner asserts that *Moiin* teaches this feature at column 12, lines 1-15. *Moiin*, column 12, lines 1-16, is reproduced below:

system by collecting all the connectivity information and using its ability to turn off the PSUs of a node.

As has been mentioned above, partition monitor 22 is effective to ensure that there is only one fully connected network operating as a distributed fault tolerant system at any given time. The partition monitor 22 accomplishes its task by collecting the required connectivity information from each connectivity monitor, detecting any partitions and selecting an "optimal" sub-system if there is a partition. It will then turn the power off to those nodes that are not in the new and optimal distributed fault tolerant system and issues the appropriate messages to the (possibly remote) system administrator to inform him or her that errors have occurred in the communication system. In the present example, the partition monitor 22 is hosted in an external box and has some software capabilities.

Moiin, column 12, lines 1-16.

As discussed above, the Examiner asserts that the partition monitor is analogous to Applicants' service processor and the connectivity monitor is analogous to Applicants' service application. The Examiner does not point to an element in *Moiin* that is supposedly analogous to Applicants' service partition.

In order to teach in response to an absence of the service application, reporting, utilizing the service partition, the absence of the service application to a system administrator of the service partition, *Moiin* must teach in response to an absence of the connectivity monitor, reporting, utilizing a service partition, the absence of the connectivity monitor to a system administrator of the service partition. *Moiin* does not teach this, however. *Moiin* teaches merely

that the partition monitor sends messages to a system administrator. *Moiin* does not teach that these messages concern the connectivity monitor, which the Examiner believes is analogous to Applicants' service application. Furthermore, *Moiin* does not teach that the messages are sent using a service partition, or that these messages are sent to a system administrator of that service partition.

Therefore, *Moiin* does not teach, in response to an absence of said service application, reporting, utilizing said service partition, said absence of said service application to a system administrator of said service partition.

Applicants claim two different things: (1) a service partition, and (2) a service processor. According to Applicants' claims, these two different things perform different functions. The service processor monitors a presence of a service application, and the service partition reports an absence of the service application to a system administrator of the service partition.

It appears that the Examiner relies on the partition monitor, which is taught by *Moiin*, to be both a service processor and a service partition. The action performed by the service processor of Applicants' claims is different from the action performed by the service partition. The Examiner has not considered this distinction in the Final Office Action. Because Applicants have distinguished a service processor from a service partition, *Moiin* must teach both the action performed by a service processor and the action performed by a service partition. The Examiner does not refer to two different elements in *Moiin* that supposedly teach a service partition and a service processor. The Examiner has not fully considered Applicants' claims whereby a service processor is distinct from a service partition.

Because *Moiin* does not teach monitoring, by said service processor, a presence of said service application executing on said hardware management console; and in response to an absence of said service application, reporting, utilizing said service partition, said absence of said service application to a system administrator of said service partition, the combination of *AAPA* and *Moiin* does not render Applicants' independent claims obvious.

Applicants' claims 3, 12, and 21 recite similar features. Applicants' claim 3 recites outputting a signal from said service application utilizing said hardware management console to said service processor; and utilizing said signal, by said service processor, to monitor a presence of said service application. Regarding these claims, the Examiner states that *AAPA* does not teach detecting an absence of the service application and relies on *Moiin* to teach this feature.

Merely detecting an absence of the service application is not what is recited in claim 3, however. Claim 3 recites outputting a signal from the service application and then using this signal to monitor a presence of the service application. In the rejection of claim 3, the Examiner has not considered all of the features, and the interrelationships, of this claim.

Applicants' claims 4, 13, and 22 recite similar features. Applicants' claim 4 recites determining that said service application is absent in response to an absence of said signal. This is the signal of claim 3 that is output from the service application. As noted above, the Examiner believes the partition monitor is analogous to the service processor, and the connectivity monitor is analogous to the service application. Therefore, in order to teach this feature, *Moiin* must teach the connectivity monitor outputting a signal to the partition monitor. *Moiin* must also teach the partition monitor using the signal output from the connectivity monitor to monitor a presence of the connectivity monitor. In addition, *Moiin* must teach determining that the connectivity monitor is absent in response to an absence of this signal. *Moiin* does not teach these features.

The remaining rejected claims depend from the claims discussed above and are patentable for the reasons given above.

The combination of AAPA and *Moiin* does not render Applicants' claims 1-6, 10-13, 15, and 19-24 obvious because *Moiin* does not teach monitoring, by said service processor, a presence of said service application executing on said hardware management console, or in response to an absence of said service application, reporting, utilizing said service partition, said absence of said service application to a system administrator of said service partition.

B. Claims 7-9, 16-18, and 25-27

The Examiner has rejected claims 7-9, 16-18, and 25-27 under 35 U.S.C. § 103(a) as being unpatentable over AAPA (Applicant Admitted Prior Art) in view of *Moiin*, et al., System and Method of Monitoring a Distributed Fault Tolerant Computer System, Patent No. 6,550,017, dated April 15, 2003 (hereinafter "*Moiin*"), and further in view of U.S. Patent Application Publication 2002/0021671 published by *Quinlan*. This position is not well-founded.

Applicants' claims 7, 16, and 25 recited similar features. Claim 7 recites in response to an entry of a message that said hardware management console is connected to said logically partitioned computer system, displaying a message utilizing said service partition prompting said system administrator to check physical links between said hardware management console and

said logically partitioned computer system; receiving an entry in response to said message; and in response to an entry that said physical links are not intact, displaying a message utilizing said service partition prompting said system administrator to reestablish said physical links between said hardware management console and said logically partitioned computer system.

The Examiner states that the combination of *AAPA* and *Moiin* does not teach the links being physical links and relies on *Quinlan* to supply this feature.

Quinlan teaches a method of detecting a network link failure. This failure may be the result of a lack of synchronization between two devices, an incompatibility of the link protocols used by the two devices, or a problem with the link itself. *Quinlan* teaches a method of diagnosing the failure of the connection between two devices. The method comprises connecting the two devices together using a link. *Quinlan* describes a device B including registers that store information about a failure of the link between device B and another device to which device B is attached, such as device A.

The Examiner does not point to any section of *AAPA*, *Moiin*, or *Quinlan* that teaches a service partition. Neither *AAPA*, nor *Moiin*, nor *Quinlan* teaches or suggests monitoring, by said service processor, a presence of said service application executing on said hardware management console; and in response to an absence of said service application, reporting, utilizing said service partition, said absence of said service application to a system administrator of said service partition in combination with the features of claim 7. Therefore, the combination of *AAPA*, *Moiin*, and *Quinlan* does not render claim 7 obvious because the combination of *AAPA*, *Moiin*, and *Quinlan* does not teach or suggest all of the features of claim 7.

Applicants' claims 16 and 25 recite similar features and are patentable for the reasons given above.

Applicants' claims 8, 17, and 26 recite similar features. Claim 8 recites comprising the step of in response to an entry that said physical links are intact, displaying a message utilizing said service partition prompting said system administrator to manually place a service call.

The Examiner states that the combination of *AAPA* and *Moiin* does not teach the links being physical links and relies on *Quinlan* to teach this feature. Applicants disagree that the combination of *AAPA*, *Moiin*, and *Quinlan* renders Applicants' claim 8 obvious because the combination does not teach or suggest monitoring, by said service processor, a presence of said service application executing on said hardware management console; and in response to an

absence of said service application, reporting, utilizing said service partition, said absence of said service application to a system administrator of said service partition in combination with the features of claim 8.

Applicants' claims 17 and 26 recite similar features and are patentable for the reasons given above.

Applicants' claims 9, 18, and 27 recite similar features. Claim 9 recites displaying a message utilizing said service partition prompting said system administrator to check physical links between said hardware management console and said logically partitioned computer system; receiving an entry in response to said message; and in response to an entry that said physical links are not intact, displaying a message utilizing said service partition prompting said system administrator to reestablish said physical links between said hardware management console and said logically partitioned computer system.

The Examiner states that the combination of AAPA and *Motin* does not teach the links being physical links and relies on *Quinlan* to teach this feature. Applicants disagree that the combination of AAPA, *Motin*, and *Quinlan* renders Applicants' claim 9 obvious because the combination does not teach or suggest monitoring, by said service processor, a presence of said service application executing on said hardware management console; and in response to an absence of said service application, reporting, utilizing said service partition, said absence of said service application to a system administrator of said service partition in combination with the features of claim 9.

Applicants' claims 18 and 27 recite similar features and are patentable for the reasons given above.

C. Conclusion

The combination of the cited prior art does not render Applicants' claims obvious because the combination does not teach monitoring, by said service processor, a presence of said service application executing on said hardware management console, or in response to an absence of said service application, reporting, utilizing said service partition, said absence of said service application to a system administrator of said service partition in combination with the other features of Applicants' claims.

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CLAIMS APPENDIX

The text of the claims involved in the appeal are:

1. A method in a data processing system including a logically partitioned computer system and a hardware management console, said hardware management console being a stand-alone system separate from said logically partitioned computer system, a service application being executable by said hardware management console for managing service of and placing service calls for said logically partitioned computer system, said method comprising the steps of:

including a service partition and a service processor within said logically partitioned computer system;

monitoring, by said service processor, a presence of said service application executing on said hardware management console; and

in response to an absence of said service application, reporting, utilizing said service partition, said absence of said service application to a system administrator of said service partition.

2. The method according to claim 1, further comprising the step of reporting, from said service processor, said absence of said service application to said service partition.

3. The method according to claim 1, further comprising the steps of:

outputting a signal from said service application utilizing said hardware management console to said service processor; and

utilizing said signal, by said service processor, to monitor a presence of said service application.

4. The method according to claim 3, further comprising the step of determining that said service application is absent in response to an absence of said signal.

6. The method according to claim 4, further comprising the steps of:

displaying a message utilizing said service partition prompting said system administrator of said service partition to check whether said hardware management console is connected to said logically partitioned computer system;

receiving an entry in response to said message; and

in response to an entry that said hardware management console is disconnected from said logically partitioned computer system, displaying a message to said system administrator to reconnect said hardware management console to said logically partitioned computer system.

7. The method according to claim 6, further comprising the steps of:

in response to an entry of a message that said hardware management console is connected to said logically partitioned computer system, displaying a message utilizing said service partition prompting said system administrator to check physical links between said hardware management console and said logically partitioned computer system;

receiving an entry in response to said message; and

in response to an entry that said physical links are not intact, displaying a message utilizing said service partition prompting said system administrator to reestablish said physical

links between said hardware management console and said logically partitioned computer system.

8. The method according to claim 7, further comprising the step of in response to an entry that said physical links are intact, displaying a message utilizing said service partition prompting said system administrator to manually place a service call.

9. The method according to claim 4, further comprising the steps of:

displaying a message utilizing said service partition prompting said system administrator to check physical links between said hardware management console and said logically partitioned computer system;

receiving an entry in response to said message; and

in response to an entry that said physical links are not intact, displaying a message utilizing said service partition prompting said system administrator to reestablish said physical links between said hardware management console and said logically partitioned computer system.

10. A data processing system including a logically partitioned computer system and a hardware management console, said hardware management console being a stand-alone system separate from said logically partitioned computer system, a service application being executable by said hardware management console for managing service of and placing service calls for said logically partitioned computer system, comprising:

a service partition and a service processor included within said logically partitioned computer system;

said service processor for monitoring a presence of said service application executing on said hardware management console; and

in response to an absence of said service application, said service partition for reporting said absence of said service application to a system administrator of said service partition.

11. The system according to claim 10, further comprising said service processor for reporting said absence of said service application to said service partition.

12. The system according to claim 10, further comprising:

said service application for outputting a signal utilizing said hardware management console to said service processor; and

said service processor for utilizing said signal to monitor a presence of said service application.

13. The system according to claim 12, further comprising said service processor for determining that said service application is absent in response to an absence of said signal.

15. The system according to claim 13, further comprising:

said service partition for displaying a message prompting said system administrator of said service partition to check whether said hardware management console is connected to said logically partitioned computer system;

an entry being received in response to said message; and

in response to an entry that said hardware management console is disconnected from said logically partitioned computer system, said logically partitioned computer system for displaying a message to said system administrator to reconnect said hardware management console to said logically partitioned computer system.

16. The system according to claim 15, further comprising:

in response to an entry of a message that said hardware management console is connected to said logically partitioned computer system, said service partition for displaying a message prompting said system administrator to check physical links between said hardware management console and said logically partitioned computer system;

an entry being received in response to said message; and

in response to an entry that said physical links are not intact, said service processor for displaying a message prompting said system administrator to reestablish said physical links between said hardware management console and said logically partitioned computer system.

17. The system according to claim 16, further comprising in response to an entry that said physical links are intact, said service partition for displaying a message prompting said system administrator to manually place a service call.

18. The system according to claim 13, further comprising:

said service partition for displaying a message prompting said system administrator to check physical links between said hardware management console and said logically partitioned computer system;

an entry being received in response to said message; and

in response to an entry that said physical links are not intact, said service partition for displaying a message prompting said system administrator to reestablish said physical links between said hardware management console and said logically partitioned computer system.

19. A computer program product in a data processing system including a logically partitioned computer system and a hardware management console, said hardware management console being a stand-alone system separate from said logically partitioned computer system, a service application being executable by said hardware management console for managing service of and placing service calls for said logically partitioned computer system, said computer program product comprising:

instruction means for including a service partition and a service processor within said logically partitioned computer system;

instruction means for monitoring, by said service processor, a presence of said service application executing on said hardware management console; and

in response to an absence of said service application, instruction means for reporting, utilizing said service partition, said absence of said service application to a system administrator of said service partition.

20. The product according to claim 19, further comprising instruction means for reporting, from said service processor, said absence of said service application to said service partition.

21. The product according to claim 19, further comprising:

instruction means for outputting a signal from said service application utilizing said hardware management console to said service processor; and

instruction means for utilizing said signal, by said service processor, to monitor a presence of said service application.

22. The product according to claim 21, further comprising instruction means for determining that said service application is absent in response to an absence of said signal.

24. The product according to claim 22, further comprising:

instruction means for displaying a message utilizing said service partition prompting said system administrator of said service partition to check whether said hardware management console is connected to said logically partitioned computer system;

instruction means for receiving an entry in response to said message; and

in response to an entry that said hardware management console is disconnected from said logically partitioned computer system, instruction means for displaying a message to said system administrator to reconnect said hardware management console to said logically partitioned computer system.

25. The product according to claim 24, further comprising:

in response to an entry of a message that said hardware management console is connected to said logically partitioned computer system, instruction means for displaying a message utilizing said service partition prompting said system administrator to check physical links between said hardware management console and said logically partitioned computer system;

instruction means for receiving an entry in response to said message; and

in response to an entry that said physical links are not intact, instruction means for displaying a message utilizing said service partition prompting said system administrator to reestablish said physical links between said hardware management console and said logically partitioned computer system.

26. The product according to claim 25, further comprising in response to an entry that said physical links are intact, instruction means for displaying a message utilizing said service partition prompting said system administrator to manually place a service call.

27. The product according to claim 22, further comprising:

instruction means for displaying a message utilizing said service partition prompting said system administrator to check physical links between said hardware management console and said logically partitioned computer system;

instruction means for receiving an entry in response to said message; and

in response to an entry that said physical links are not intact, instruction means for displaying a message utilizing said service partition prompting said system administrator to

reestablish said physical links between said hardware management console and said logically partitioned computer system.

EVIDENCE APPENDIX

There is no evidence to be presented.

RELATED PROCEEDINGS APPENDIX

There are no related proceedings.